

Appl. No. 10/036,140
Amdt. dated December 14, 2005
Reply to Office action of September 23, 2005

REMARKS/ARGUMENTS

At the time of the Office action dated September 23, 2005, claims 1-23 were pending in the present application. All of the claims 1-23 have been rejected.

With this Response, Applicants have amended all of the independent claims 1, 7, 10, 18, and 22.

I. INTERVIEW SUMMARY

The Applicants thank the Examiner for holding a telephone interview with attorney Albert Metrailler on November 4, 2005, and exchanging several emails relating to the current claim rejections.

In the interview, the new Rajahalme reference was discussed primarily with reference to claims 1 and 10. The substance of that discussion is contained in an email from attorney Albert Metrailler to the Examiner dated November 7, 2005. The Examiner's position on the discussion is contained in an email from the Examiner dated November 12, 2005. By email of November 17, 2005, attorney Albert Metrailler provided a suggested amendment to claim 1 with arguments as to why it should be allowable over the references. By email of November 21, 2005, the Examiner provided a response to the arguments and suggested amendments.

As the email communications indicate, no agreement was reached as to patentability of the claims relative to the applied references. However, the Examiner's last email suggests that to distinguish the references, the claims should be limited to providing two addresses to a client "at the same time" and it should be made clear for the record that this occurs as part of building an "association." The present amendment is intended to be consistent with these suggestions.

II. CLAIM REJECTIONS – 35 U.S.C. § 103

The Examiner rejected claims 1-13 and 15-23 under 35 U.S.C. § 103(a) as being unpatentable over Baudot et al. (U.S. Pub. No. 2002/0107966) in view of Rajahalme (U.S. Pub. No. 2004/0107234). The Applicants respectfully traverse these rejections.

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The present invention apparently was conceived as an improvement to the SCTP standard. That standard controls communications between two endpoints, each endpoint being a single computer, e.g., a client and a server. But, SCTP improves communications by providing alternate pathways, i.e., provides a backup pathway in case of failure in one pathway. This is referred to as multihoming which means providing multiple ports with separate addresses for one computer, e.g., the server. This helps solve the problem of a pathway failure, but does not solve the problem of failure of the server itself.

The present inventors discovered that without changing the way the client is configured, they can solve the problem of failure of one server. The solution is to have two servers with separate addresses, but to provide those two addresses to the client at the same time as if they are simply alternate addresses for one server, emulating the SCTP standard as far as the client is concerned. For this to work, the remaining elements, such as synchronizing the data blocks, are provided so that the second computer can receive and respond to messages from the client without delay or building a new association. The client simply follows the SCTP protocol as if there was a pathway failure, even when there is actually a server failure.

Neither reference teaches or suggests building an association that provides two active addresses of two separate computers to the client at the same time as alternate addresses for one node, even though there are actually two active computers acting as the one node. Baudot provides only one address to the client and provides a backup computer that is not active, in that it is not actively connected to the network and must be activated and have the one address migrated to it in event of failure of the primary computer. Rajahalme has multiple active servers with separate addresses, but provides only one address of one server to the client and, if that server fails, must go through the binding process to provide another address of another server to the client. The binding process appears to be equivalent to building an association.

The independent claims have been amended to make it clear that two addresses of two separate computers, e.g., servers, are provided to the outside

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computer, e.g., a client, at the same time and as alternate addresses of one endpoint or node. These amendments are supported in a number of ways by the present specification.

As noted above, the disclosed embodiments are improvements to the SCTP protocol. In par. 4 it is noted that SCTP insures that a relationship or "association" is created between the endpoints prior to transmission of data and the relationship is maintained until all data transmission has been completed. In par. 5 it is noted that a core feature of SCTP is multi-homing in which a single endpoint supports multiple IP addresses. In par. 16 it is noted that two endpoints build an association and that SCTP uses one address for a normal address, but if transmission fails it uses an alternate address. In par. 17 it is noted that the association must exist before data is transferred. In par. 18 it is noted that the endpoints exchange lists of addresses during initiation of the association. In par. 19 it is noted that in event of failure of a transmission, the SCTP instance automatically sends to an alternate address. In par. 23, an embodiment is described as having multiple computers, each with one interface, instead of the SCTP standard of one computer with two interfaces. In par. 27 it is noted that the multi-homing feature designed for one purpose in SCTP protocol is used for a separate purpose by the preferred embodiment of the disclosed system. In paragraphs 32, 33 it is clear that the disclosed embodiment provides two computers with separate addresses that are seen by the opposite node as one computer with a primary address and an alternate address that it uses automatically in event of a failure of a transmission to the primary address.

Each of the original claims states that the association defines pathways between the cluster and the outside computer. In the context of communications **between** computers, it is clear that both endpoints would have to have complete information on the **pathways**. Thus for multiple pathways, the outside computer would need to possess the multiple addresses for the cluster and would have to have it when communicating, and therefore would have to possess the information before the session began.

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It is clear from these and other portions of the specification and claims as filed that the association, or building an association, includes providing two addresses to the opposite endpoint at the same time. For example, the association includes two addresses and must be established before the communication session. If the opposite endpoint did not have both addresses before the session started, it would not be able to automatically resend to the alternate address as soon as it noticed a failure at the first address. If the association did not provide multiple addresses to the other endpoint at the same time, it would not be using the SCTP multihoming feature at all, much less for a different purpose.

The Applicants submit that as amended, the independent claims 1, 7, 10, 18, and 22 are clearly patentable over the applied references. Since the remaining claims are all dependent claims, the Applicants submit that they are also patentable over the applied references.


In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the cited art which have yet to be raised, but which may be raised in the future.

Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including

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fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,


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